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## **Hepatitis case-finding among migrants in primary care: HepFree needs to be implemented**

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Childhood HBV vaccination and antenatal screening are two of the most important public health interventions for preventing and controlling chronic HBV infection worldwide<sup>1</sup>. Even in countries with endemically low prevalence HBV vaccination is cost-effective when given as part of a hexavalent vaccine (DTaP/Hib/IPV/HepB) in the routine infant immunisation programme<sup>2</sup>, and antenatal screening to identify mothers with chronic HBV and then follow-up and immunise the infant is likely to be cost-saving<sup>3</sup>. In the UK the majority of chronic HBV cases are in adults – predominantly migrants – who were infected in their country of origin (largely from countries where chronic HBV is over 2% in the population)<sup>4</sup>. In contrast, the majority of HCV infections in the UK are in people who inject or have injected drugs though migrant populations also have an elevated risk of HCV infection compared to general population<sup>5</sup>.

The next critical intervention is case-finding – and it makes sense to combine HBV and HCV testing. The National Institute for Health and Care Excellence (NICE) recommends that “GPs and practice nurses should offer testing for hepatitis B and C to adults and children at increased risk of infection, particularly migrants from medium- or high-prevalence countries”

(<https://www.nice.org.uk/Guidance/PH43>) reinforced by Public Health England migrant health guide (<https://www.gov.uk/topic/health-protection/migrant-health-guide>). The original recommendation was not based on direct trial evidence but economic models of potential interventions with a range of assumptions on HBV / HCV prevalence, intervention cost, uptake and engagement with specialist services<sup>6</sup>.

This has now changed. HepFree [Please Link to Paper] has transformed the evidence base. HepFree is a complex intervention – by which we mean it has multiple ingredients – an algorithm on primary care systems, some compensation to GPs to take part and introduce the algorithm, a standard letter inviting patients for screening, and specialist clinical support for the practice. The main study found convincing evidence that HepFree could a) increase uptake of viral hepatitis screening and linkage to care, b) identify a population with a higher than average risk of viral hepatitis, and c) be highly cost-effective - at ~£8500 per Quality Adjusted Life Year – and well below suggested cost-effectiveness thresholds of average cost of NHS interventions<sup>7</sup>.

HepFree found no evidence for a subsidiary question that this patient group prefer community based treatment over standard hospital based care whereas community care is critical to scaling up HCV treatment among PWID.

It is a shame that the intervention was capped in some practices (ostensibly to save resources) with large numbers of potentially eligible patients, as we need to know both what it will cost in the real world and how these practices will cope with the intervention. Nonetheless the evidence is compelling and strong enough to recommend implementation and moving to phase IV evaluation. ‘Treatment as usual’ is failing to screen migrant populations – in the HepFree control less than 2% of

patients were screened – and other studies also have shown low levels of screening except for pregnant women (because there is a commissioned universal antenatal HBV screening programme in the UK)<sup>8</sup>. Local commissioners and primary care services need help on how to take forward NICE guidance. HepFree provides the immediate solution.

There are a number of tweaks, however, that may be necessary. First, in our commentary we focus in the first sentence on HBV because it is the most important cause of chronic viral hepatitis in migrant populations but HepFree screens for both HBV and HCV and the HepFree algorithm identifies “eligible patients” based on “ethnic group” rather than country of birth. Two of us are from ethnic groups that maybe targeted by the algorithm though we were born in UK and US and consequently have a very low risk of HBV or HCV. Country of birth, if routinely recorded on GP systems, will provide a greater yield<sup>9</sup> and likely to be more cost-effective in the long run. The proportion of chronic HCV infections found in the study population was not much higher than expected in the general population<sup>5</sup>. Second, we need to monitor testing and specialist referral uptake to determine whether extra interventions or ingredients are required to attract patients into care who do not respond to the first invitation. Third, cost-effectiveness will vary depending on chronic HCV prevalence and treatment cost/outcomes, factors which are changing quickly due to the dramatic recent progress in the HCV treatment landscape. Continued monitoring and updating the economic analyses as part of implementation will be important to ensure screening remains cost-effective in this population.

## References

1. Organization WH. Global Health Sector Strategy on Viral Hepatitis 2016-2021: Towards ending viral hepatitis. Geneva: WHO, 2016.
2. Mandal S. Introduction of universal infant hepatitis B immunisation in the UK– paving the way to elimination. *Human Vaccines & Immunotherapeutics* 2018; 1-4.
3. Edmunds WJ, Ramsay M. Reducing differences in the uptake of immunisations – economic analysis. The estimated cost-effectiveness of vaccination in infants born to hepatitis B virus positive mothers. London: NICE, 2012.
4. Hahne S, Ramsay M, Soldan K, Balogun K, Mortimer P. Hepatitis B incidence among South Asian children in England and Wales: implications for immunisation policy. *ArchDisChild* 2003; **88**(12): 1082-3.
5. Harris RJ, Ramsay M, Hope VD, et al. Hepatitis C prevalence in England remains low and varies by ethnicity: an updated evidence synthesis. *Eur J Public Health* 2012; **22**(2): 187-92.
6. Miners AH, Martin NK, Ghosh A, Hickman M, Vickerman P. Assessing the cost-effectiveness of finding cases of hepatitis C infection in UK migrant populations and the value of further research. *Journal of Viral Hepatitis* 2014; **21**(9): 616-23.
7. Claxton K, Martin S, Soares M, et al. Methods for the estimation of the National Institute for Health and Care Excellence cost-effectiveness threshold. *Health Technol Assess* 2015; **19**(14): 1-503, v-vi.
8. Evlampidou I, Hickman M, Irish C, et al. Low hepatitis B testing among migrants: A cross-sectional study in a UK city. *British Journal of General Practice* 2016; **66**(647): e382-e91.
9. Cochrane A, Evlampidou I, Irish C, Ingle SM, Hickman M. Hepatitis B infection prevalence by country of birth in migrant populations in a large UK city. *Journal of Clinical Virology* 2015; **68**: 79-82.